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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHOWDHURY, SUMAIYA A

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/923,038	<b>Applicant(s)</b> BROOKS, PAUL D.	
	<b>Examiner</b> Sumaiya A. Chowdhury	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-32 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

or

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 4, 5, 15, 19, 20, 22-25, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Dail (5878325).

As for claims 1 and 22, Dail discloses a system and method for distributing information, represented by a modulated signal received from a cable medium, to a headend of a hybrid fiber coax (HFC) cable arrangement, the system comprising:

a device (440 - Fig. 3) for demodulating the modulated signal to generate a baseband signal containing the information – col. 4, lines 25-29; and

an optical transmitter (330 – Fig. 3) for generating an optical signal representing the baseband signal, the optical signal traversing an optical fiber (160<sub>1</sub> – Fig. 3) extending to the headend (12 – Fig. 3; col. 4, line 64 – col. 5, line 3).

As for claims 2 and 23, Dail discloses wherein the baseband signal is a digital signal – col. 4, lines 26-28.

As for claims 5 and 25, Dail discloses one or more devices (280 – Fig. 3) for tuning to the plurality of channels, respectively, to process the analog signals in the respective channels – col. 4, lines 35-42.

As for claims 4 and 24, Dail discloses wherein the modulated signal includes a plurality of analog signals, the analog signals populating a plurality of channels in the cable medium, respectively – col. 4, lines 22-30.

As for claims 15 and 31, Dail discloses a system and method for transporting information from a plurality of terminals through a optical fiber medium, the terminals generating analog modulated signals which populate a plurality of channels in a cable medium, each analog modulated signal representing information from a respective one of the terminals, the system comprising:

one or more devices (180 – Fig. 3) for converting one or more of the analog modulated signals to digital baseband signals, respectively, the digital baseband signals containing information from the respective terminals; - col. 4, lines 22-30

a multiplexer (480 – Fig. 3) for combining the digital baseband signals to form a combined signal; - col. 4, lines 63-67

an optical transmitter (330 – Fig. 3) for transmitting an optical signal representing the combined signal through the optical fiber medium (160<sub>1</sub> – Fig. 3, col. 4, lines 64 – col. 5, line 3).

As for claim 19, Dail discloses an HFC cable arrangement for providing an interactive service (The system transmits both downstream and upstream information. Hence, it provides an interactive service. – col. 4, lines 31-36).

As for claim 20, Dail discloses wherein the HFC cable arrangement also provides cable television – col. 2, lines 30-37.

3. Claims 6-14 and 26-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Levinson (US 2002/0129379).

As for claims 6 and 26, Levinson discloses a system and method for processing information represented by an optical signal in a headend (408 – Fig. 21) of an HFC cable arrangement to provide a service, the system comprising:

a optical receiver (424 – Fig. 21) for converting the optical signal to a composite baseband signal representing a plurality of information streams – paragraph [0154];

a demultiplexing device (478 – Fig. 21) responsive to the composite baseband signal for generating the plurality of information streams (RF data, Non-RF data, Maintenance data) – paragraph [0154]

a subsystem (134, 479, 482 – Fig. 21) for processing at least one of the information streams to realize the service – paragraph [0154], [0105].

As for claims 7 and 27, Levinson discloses wherein the service includes an interactive service; Levinson discloses upstream and downstream communications, hence the system provides interactive service – paragraph [0136], [0111], [0002].

As for claims 8 and 28, Levinson discloses wherein the at least one information stream includes data bits. The data that is transmitted to the router is digital data, hence it includes data bits – paragraph [0154].

As for claim 9, Levinson discloses an apparatus for providing cable television, which is different from the service – paragraph [0156].

As for claim 10, Levinson discloses wherein a signal representing the cable television travels in a direction different from that of the optical signal in the HFC cable arrangement. The cable television signal travels downstream from the headend to subscriber terminals and the data signals travel upstream from the subscriber terminals to the headend – paragraph [0154], [0002]

As for claims 11 and 29, Levinson discloses wherein the subsystem includes a device for modulating a designated carrier with the at least one information stream to

form a modulated signal. The subsystem includes transceiver (479 – Fig. 21) which receives data over data channels and processes the data by inherently modulating it for transmission to router (406 – Fig. 3) – paragraph [0154].

As for claim 12, Levinson discloses wherein the subsystem includes a cable modem termination system (CMTS) – 134 – Fig. 21, paragraph [0154].

As for claim 13, Levinson discloses wherein the CMTS includes a digital input interface. Referring to Fig. 21, the RF data transmitted from the demux to the CMTS is 12 bit, hence it is digital, requiring a digital input interface in the CMTS.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dail in view of Elder (5488413).

As for claims 3 and 18, Dail fails to disclose wherein the optical transmitter includes a digital laser.

In an analogous art, Elder discloses wherein the optical transmitter is a laser – col. 5, lines 3-6.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Dail's invention to include wherein the optical transmitter includes a digital laser, as taught by Elder, for the advantage of transmitting data using a reliable and efficient technique.

6. Claims 14 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levinson in view of Chaney (5642153).

As for claims 14 and 30, Levinson fails to disclose wherein the composite baseband signal is encoded in accordance with an error correction coding technique.

In an analogous art, Chaney discloses wherein a signal is encoded in accordance with an error correction coding technique for the advantage of preventing errors in signals – col. 6, lines 33-39.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Levinson's invention to include wherein a signal is encoded in accordance with an error correction coding technique for the advantage of preventing errors in signals, as taught by Chaney, for the advantage of preventing errors in signals.



7. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dail in view of Beirle (6538781).

As for claims 16 and 17, Dail discloses terminals (14 – Fig. 3), but fails to disclose wherein the terminals include a set top terminal and a computer. – col. 2, lines 30-37

In an analogous art, Beirle discloses wherein the terminals include a set top terminal and computer – col. 7, lines 1-25.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Dail's invention to include wherein the terminals include a set top terminal and computer, as taught by Beirle, for the advantage of adding diversity to the number devices which could carry out upstream communications in a hybrid fiber coaxial system.

8. Claims 21 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dail in view of Takahashi (6011921).

As for claims 21 and 32, Dail fails to disclose an optical multiplexer for multiplexing the optical signal with a second optical signal representing those analog modulated signals which have not been converted to digital baseband signals.

In an analogous art, Takahashi discloses wherein the optical multiplexer (102 – Fig. 48) combines an analog stream (103B – Fig. 48) and digital stream (103A – Fig. 48) – col. 1, lines 18-30.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Dail's invention to include an optical multiplexer for multiplexing a digital stream with an analog stream, as taught by Takahashi, for the advantage of providing the minimalism of one composite stream.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumaiya A. Chowdhury whose telephone number is (571) 272-8567. The examiner can normally be reached on Mon-Fri, 9-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Grant can be reached on (571) 272-7292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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